

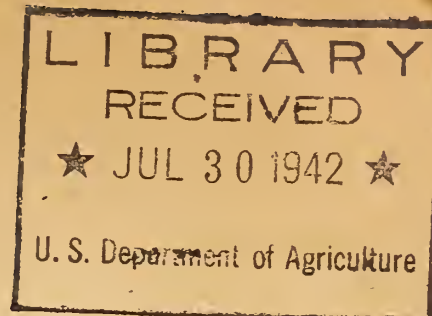
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UNITED STATES DEPARTMENT OF AGRICULTURE
U.S. Agricultural Marketing Administration



COTTON GINNERS' PART IN PRODUCING MORE AND BETTER LINTERS FOR DEFENSE

By G. S. Meloy, Chairman, Board of Cotton
Linters Examiners

Address, Conventions of Various State Associations
of Cotton GINNERS, 1942

For war purposes cotton linters is the source of the best quality of cellulose used in the manufacture of smokeless powder with which to charge our guns and cannon and also to make windows for our bombers and fighting planes. I wish I could impress the importance of the place of linters in the war effort upon every cotton grower, every cotton ginner, and every cottonseed crusher. I should also like to emphasize the fact to every one of them that the amount and the quality of cotton linters that are produced in these United States are vital factors in the present war.

Because of the emphasis that must now be placed on quality it may be of interest to give you a little background of the development of the standard grades for linters. Some of you possibly may recall what a sorry lot of linters was produced during the First World War. The United States standard grades for American cotton linters were developed largely as an answer to the defects in linters brought to light during that war. The grades that were worked out after a close study of the subject became the official standards of the United States for American cotton linters in August 1926. Standard grades 5, 6, and 7 were especially designed for war purposes and were developed in collaboration with the chemical warfare branch of the Army. During the studies of cotton linters foreign matter was the chief topic of the discussions. As a result the standards contain only a tolerance of matters foreign to the fibers and any excesses of foreign matter result in the classification of such linters as "offgrade." From a survey of the quality of the linters produced during the season of 1939-40, it was estimated that the return on the linters sold by the cottonseed oil mills that season was reduced by approximately $2\frac{1}{2}$ million dollars because of excesses of foreign matter, including hull pepper.

The quantity, and to an extent, the quality of the powder that can be made, depends upon the quality of the linters and when used for bomber windows only the most perfect character of linters is suitable.

Foreign matter in linters is of much greater significance in war than in peace time. Now, when we are in a major war, every minute must be saved, every drop of refining chemicals must be conserved; and the most efficient powder in maximum quantities must be produced. It takes time and

chemicals to remove foreign matter from linters. If the foreign matter is not completely removed the resulting powder will have its propellant qualities reduced, and projectiles may be simply tossed into the air instead of shot into the enemy. Moreover, instances are of record when foreign matter in linters has caused explosions in powder factories with consequent loss of life, material, and time.

The introduction of foreign matter in cottonseed begins with the picking. Storms before harvest and inclement weather during that period increase the amount of plant scrap adhering to the seed cotton. The moisture content of the seed cotton is a dominating factor in determining the effectiveness of ginner in removing such material before ginning. Where seed cotton driers are available the removal of such material is facilitated to some small extent.

It is therefore incumbent upon every cotton grower to pick his cotton as clean and as dry as possible. Moreover, cotton growers should not be misled by the emphasis that is often placed on high "gin outturns." Too close ginning frequently is at the expense of the quality and therefore of the value of the lint cotton, for cotton lint containing linters is discounted when sold and the linters in such cotton is lost to the Government for war purposes.

I had thought that the practice of returning foreign matter to the seed by ginner had been generally abandoned, but from the amount of dirt and trash found in linters this season apparently the practice is still quite widespread. The practice is in violation of the regulations under the Food and Drug Act and it is prohibited by the laws of some of the cotton-growing States. In the Mississippi Valley States, where cottonseed is marketed on the basis of the standard grades, the practice has disappeared because of the financial penalties entailed.

Without doubt the deliberate return to the seed of foreign matter once removed at a gin, can be dealt with under the drastic powers of the War Production Board. A ginner caught doing so may find himself not only closed down but also severely penalized.

I appreciate that there are still many gins that are poorly equipped to properly clean seed cotton. To such ginner I want to emphasize as strongly as possible the fact that they now have a patriotic duty to urge their farmers to pick cotton clean and dry, and beyond that to give all cottonseed an extra cleaning before shipping them to an oil mill.

The patriotism of every cotton grower, cotton ginner, and cottonseed oil miller of this country undoubtedly would prompt them to take steps to improve the situation materially if they realized that leaves and sticks, and sand and dirt in cotton linters designed for the manufacture of munitions are a serious drawback to our war efforts, that they entail serious difficulty in the purification of the linters, and if not removed, that they

seriously impair the value of the munitions manufactured from such linters, and may even cause the destruction of a powder factory. This statement would also apply to the oil mills that attempt to delint seed without thoroughly cleaning them, to delint damp seed, or to delint seed so closely in an effort to increase the cut as to scarify the seed coats and cause the linters to contain excesses of hull pepper. Hull pepper is not cellulose, and cellulose is what we need. Hull pepper causes economic losses during refining and materially reduces the quantity and quality of the munitions produced.

I would like to read a brief abstract from a letter written by the chief chemist of one of the large munitions manufacturers. He says, in part -- "It should be pointed out that there is a definite safety problem in the employment of low quality linters.

"The trash present in low grades of linters does not respond to purification operations, and remains in the final product delivered to the smokeless producer. Each particle of trash is a potential source of fire or explosion in the nitrating process. This not only means a loss of a very essential material, but a loss to equipment and to manpower.

"Everyone is making an effort to more efficiently produce necessary war materials and this effort is not advanced by reluctance to remove as much as possible the dirt and trash present in heavy cuts of linters. We appreciate the oil mills' efforts to make as high a yield per ton of seed as possible, but it is only cellulose which is useful to our defense program, and this cellulose becomes unavailable if trash and dirt reach too high a proportion. Such materials can be removed by mechanical means for which only ginner and oil mills are equipped. Dirt and trash removal cannot be effected by chemical purification alone. The oil mills must cooperate."

Let me close with three observations that might be taken home:

First to cotton growers.

Pick your cotton clean and dry. Remember that dirt and trash and water in seed cotton not only lower the grade and value of your bale of cotton but increase the cost of transportation and take up valuable freight space; they also lower the value of the seed and reduce the quantity and quality of the food products and munitions made from the seed. Remember also that the ginner who advertises that he gives you a "higher outturn" or that he "skins the seed" is probably putting linters into your cotton thereby lowering its value and what is worse in this time of emergency he may be robbing your Government of that form of fiber necessary for munitions and other essential war materials. Cotton growers remember that sabotage may be practiced through direct or indirect, positive or indifferent actions.

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To ginnerers.

Dirt and trash in cottonseed cannot always be removed at the oil mills and when they are not removed they get into the linters. Dirt and trash in linters used in the manufacture of smokeless powder cannot always be removed during the purification process and, if they are not removed, some forms of them may result in the destruction of a powder factory and other forms may so reduce the effectiveness of the powder as to make our armed forces helpless. Gin your seed cotton carefully; make the best grade of cotton possible; do not gin so close as to rob the seed of their linters. Linters in cotton is a waste at the spinning mills, but linters produced at the oil mills mean powder for our soldiers and windows for our bombers and fighter planes. Ginnerers keep in mind that on you depends much of the effectiveness of the powder used by our armed forces, and do not let there be cause for suspicion of sabotage because of any selfishness or carelessness on your part.

To cottonseed crushers.

To fail to remove foreign matter or carelessly to permit it to go into linters; to so closely cut or to cut from seed so damp as to fill the linters with hull pepper, could possibly be construed as a form of sabotage. Should any mill be attacked by a bomber and the anti-aircraft forces not be able to circumvent the bombers, the mill manager, if he escaped the wreckage, should ask himself: "Was the powder our anti-aircraft forces used made from that offgrade bunch of linters I sold to the munitions manufacturers?" Eight and one-half pounds of hull pepper hidden in munition linters possibly can be sold for 30 cents, or 3 pieces of silver, but if it makes one soldier's powder supply ineffective, think how much it is worth to the enemy!

Is it not possible through you cotton ginnerers and the oil-mill men here present and those cotton growers who may be among you to have these messages reach every cotton ginner, and in turn, to have them relay the messages to every cotton grower and cottonseed crusher? Let every one of them know that our country needs every ounce of linters it is possible to recover and that it needs it in its best and cleanest form. No precious freight space should be spared for dirt and trash in either cottonseed or cotton linters and no precious time lost in cleaning out dirt and trash after the linters reach the powder factory.